OPEN ACCESS

King's College LONDON

King's Research Portal

Document Version
Publisher's PDF, also known as Version of record

Link to publication record in King's Research Portal

Citation for published version (APA):
Hussein, S. (2010). The role of young workers (18-25) in the English care sector. *Social Care Workforce Periodical*, (3). http://www.kcl.ac.uk/sspp/policy-institute/scwru/pubs/periodical/2010/issue3.aspx

Citing this paper
Please note that where the full-text provided on King's Research Portal is the Author Accepted Manuscript or Post-Print version this may differ from the final Published version. If citing, it is advised that you check and use the publisher's definitive version for pagination, volume/issue, and date of publication details. And where the final published version is provided on the Research Portal, if citing you are again advised to check the publisher's website for any subsequent corrections.

General rights
Copyright and moral rights for the publications made accessible in the Research Portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognize and abide by the legal requirements associated with these rights.

•Users may download and print one copy of any publication from the Research Portal for the purpose of private study or research.
•You may not further distribute the material or use it for any profit-making activity or commercial gain
•You may freely distribute the URL identifying the publication in the Research Portal

Take down policy
If you believe that this document breaches copyright please contact librarypure@kcl.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.

Download date: 05. May. 2023

KING'S College LONDON
University of London

SOCIAL CARE WORKFORCE RESEARCH UNIT

Social Care Workforce Periodical

THE ROLE OF YOUNG WORKERS (18-25) IN THE ENGLISH CARE SECTOR

Shereen Hussein, BSc MSc PhD
January 2010

ISSUE **3**
SOCIAL CARE WORKFORCE RESEARCH UNIT
KING'S COLLEGE LONDON
Correspondence: Dr Shereen Hussein
shereen.hussein@kcl.ac.uk

Preface

The *Social Care Workforce Periodical* aims to provide timely and up-to-date information on the social care workforce in England. In each issue, one aspect of the workforce is investigated through the analysis of emerging quantitative workforce data to provide evidence-based information that relates specifically to the social care workforce in England. The purpose is to share emerging findings with the social care sector to help improve workforce intelligence. Such updates are useful in highlighting specific issues for further analysis and to inform workforce policy. The first few issues of *Social Care Workforce Periodical* will provide in-depth analyses of the latest versions of the National Minimum Data Set in Social Care (NMDS-SC); for further information on NMDS-SC see Box A.1 in the Appendix. We would welcome any suggestions on topics for inclusion in future issues.

Acknowledgments

The author is most grateful to Skills for Care for providing the latest NMDS-SC data files. Particular thanks are due to David Griffiths, Christine Eborall and Sarah Woodrow for their support and assistance, and to colleagues at the Social Care Workforce Research Unit. This work is funded under the Department of Health Policy Research Programme support for the Social Care Workforce Research Unit at King's College London. The views expressed in this report are those of the author alone and should not necessarily be interpreted as those of the Department of Health or Skills for Care.

Introduction

There is no doubt that the social care sector is one of the fastest growing employment sectors in England, as in most developed countries. There have been calls, and a number of initiatives, to increase recruitment in the sector, including recruiting migrant workers and other 'untapped' pools of workers (Hussein and Manthorpe 2005; Stone 2004; Hussein *et al.* 2009). Over the past few decades, recruitment initiatives in other developed countries, such as the United States (US), have targeted school leavers and young people as candidates to join the care sector (DOL and HHS 2003; Stone 2000). More recently, in the UK, government recruitment initiatives have also begun to target young people, recognizing their potential in terms of meeting labour demand in the fast growing adult social care sector. In April 2009, the Department of Work and Pensions (DWP) published plans to help at least 50,000 young people into social care apprenticeships in a scheme called CareFirst, as part of the Adult Social Care Workforce Strategy[1]. The scheme will see employers receiving subsidiary funds up to £1,500 to take on social care trainees under the age of 25 years old. These initiatives were supported by the Association of Directors of Adult Social Services (ADASS), which emphasized the importance of retaining young workers once recruited to the sector.

'Social care films', intended as a means of inspiring people to consider a career in social care, were launched in November 2009 by the Minister of State for Care Services, Phil Hope. The six promotional films show a range of social care roles in a compelling but realistic way, aiming to raise awareness and encourage people to find more about working in social care. The films are not solely targeted at young people, but they are posted on YouTube where young people are likely to browse (www.socialcarecareers.co.uk).

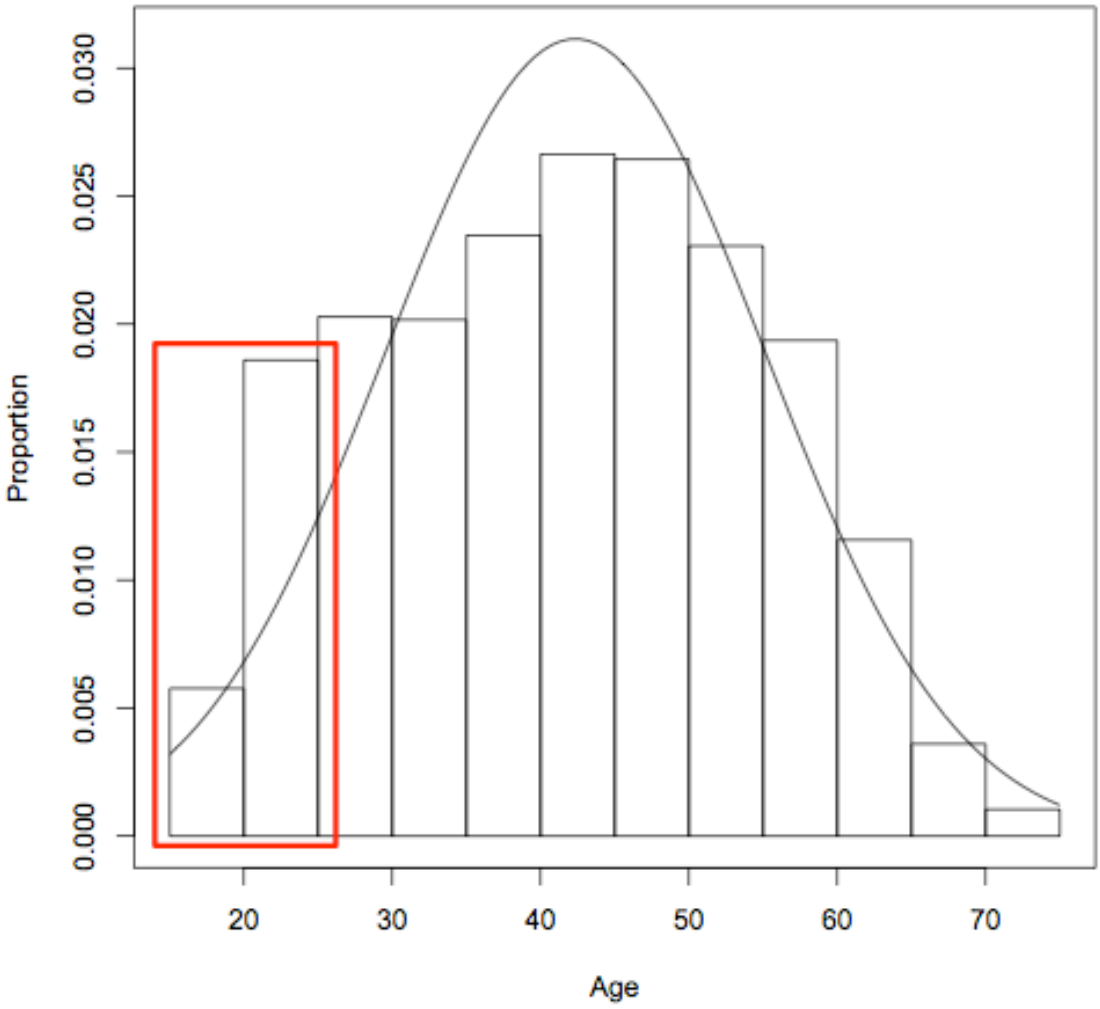
One important element in the this recruitment process is to understand the contribution already made by young workers to the English care sector and use this as a springboard to judge the success of recruitment campaigns and other initiatives. The aim of this issue of *Social Care Workforce Periodical* (SCWP) is exactly that. In this issue we provide detailed analysis of the profile and distribution of workers aged 18-25 who are employed in the English care sector as identified through NMDS-SC, May 2009 release. It is important, however, to emphasis the strengths and weaknesses the NMDS-SC may possess; particularly in relation to the data set's representativeness at this stage. As indicated in previous issues of SCWP, NMDS-SC currently over-represents the volume of workers in the independent sector while it under-estimates the statutory sector (using estimates provided by Eborall and Griffiths (2008) for comparison). In addition, all information provided for the NMDS is provided by employers, rather than workers themselves. Nevertheless, the NMDS-SC is the most accurate and up-to-date data about workers of the English social care workforce, not based on estimates.

[1] See: http://www.dh.gov.uk/en/SocialCare/workforce/DH_103664

Young workers' profile

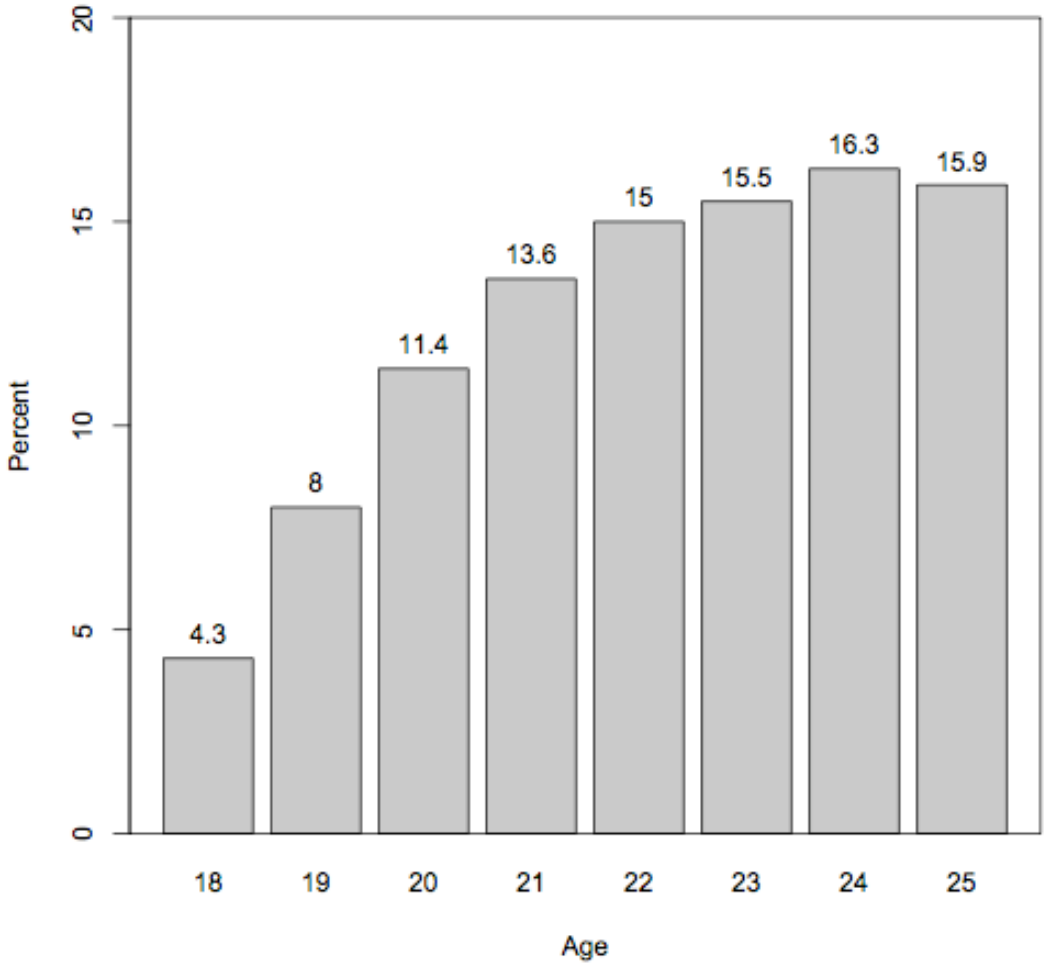
Based on NMDS-SC, release May 2009, Figure 1 shows the distribution of age for all social care workers, recorded in the NMDS for England, in the age group of 18 to 75 years, with a total number of 326,183 individuals. Approximately 12.2 percent fall in the age group 18 to 25, a total of 39,729 workers. The same Figure also shows a fitted normally distributed curve over the age histogram. The curve indicates that the age distribution of social care workers is not typically a normal distribution with fewer data in the middle and far out tails but more in the mid-range. Plotting the quantiles of the age against the theoretical quantiles of the normal distribution reveals more evidence of a light-tailed distribution (see Figure A.1 in the Appendix). Workers have a mean age of 42.3 and a median of 43, with a slight positive skewness of 0.02, indicating a tendency to higher ages than median (t-value= 4.04; p<0.001).

Figure 1 Distribution of age for all workers, the red rectangle captures the age group of 18 – 25, NMDS-SC May 2009



Out of the 39,729 young workers (18-25), Figure 2 shows that only 4.3 percent are aged 18, while the majority of them, 62 percent, are in the age group 22 to 25, with the highest percentage, 16 percent, of the age of 24. The median age is 22.0 and the mean is 22.2 years.

Figure 2 Distribution of age for care workers in the age group of 18 to 25, NMDS-SC May 2009



Out of the total of 39,729 young workers, only one percent report having a ***disability*** (N=363). A total of 27,332 (69%) report no disability, but for a sizeable group, 30 percent (n=12,034), details are not recorded. Reported disability is usually attached with high missing values because workers may not wish to disclose hidden disabilities, for example; this is exacerbated by the fact that information for the NMDS is provided by employers, not workers themselves. Among young workers whose ***gender*** is reported (85% of total, n=34,037), 85 percent are females and 15 percent males. These proportions are comparable to those of all workers in social care (Hussein 2009b), where the proportion of females is 84 percent and males 16 percent.

In terms of ***highest social care related qualifications*** recorded for young workers, less than a quarter of workers (23%, n=9,142) had such information provided by their employers. Table 1 shows that among this group, nearly half (46%, n= 4,150) hold level NVQ 2 or 2+, and 30 percent have other relevant

social care qualifications, while only one percent (n=122) held basic entry-level qualifications.

Table 1 Distribution of young workers (18-25) by their recorded highest qualification level, NMDS-SC May 2009

Recorded qualification Level	Number of young workers[2]	Percent
Entry level/ Level 1	122	1.3%
Level 2/ 2+	4150	46.3%
Level 3/ 3+	1581	17.3%
Level 4/ 4+	485	5.3%
Other relevant social care qualification	2721	29.8%
Total	9142	100.0%

Opportunities to obtain qualifications and the impact of such qualifications on career path are recognised factors in retaining staff in the care sector (Nakhnikian and Kahn 2004). Employers provided information on qualifications that were being worked towards by 6,510 young workers. Due to large missing values for this variable and for highest qualifications held, it is difficult to establish the accurate proportion of young workers working towards certain qualifications: rather, the distribution of those working towards a certain qualification is examined. Table 2 shows that just over half, 52 percent (n=3,371) are working towards NVQ level 2 or 2+, while 30 percent (n=1,660) are recorded as working towards level 3 or 3+. On the other hand, only 1 percent (n=69) is working towards entry level or level 1, and 22 percent (n=1,410) are working towards other levels of qualifications that are relevant to social care.

Table 2 Distribution of young workers working towards a qualification by level of qualification worked towards, NMDS-SC May 2009

Qualification level worked towards	Number of young workers	Percent
Entry level/ Level 1	81	1.2
Level 2/ 2+	3390	52.1
Level 3/ 3+	1969	30.2
Level 4/ 4+	300	4.6
Other relevant social care qualification	770	11.8
Totals	6510	100.0

Table 3 provides a comparison of ***ethnicity*** between younger (18-25) and older (26-75) workers, among those whose employers provided information on their ethnicity. As discussed in previous issues of SCWP, there are large numbers of workers with either 'not recorded' or 'not known' ethnicity (n=80,038); for clarity, these have been excluded from this analysis of ethnicity and age. The large majority of workers from both groups are white. Among young workers whose ethnicity is reported, 87 percent (n=24,816) are White, 5 percent Black or Black British, 4 percent, Asian or Asian British and 2 percent each Mixed or Other ethnic groups. When compared to the ethnic distribution of older workers (26-

[2] Among those who have their highest qualifications recorded

75), Chi-squared test (χ^2= 454, df = 4, p-value<0.001) shows that young workers are significantly more likely to be of White ethnicity than other workers.

Table 3 Distribution of young and older workers by ethnicity, NMDS-SC May 2009

Ethnicity	Older workers (26-75)	%	Young workers (18-25)	%
White	178324	82	24816	86.7
Mixed	3768	1.7	462	1.6
Asian or Asian British	11325	5.2	1234	4.3
Black or Black British	18483	8.5	1519	5.3
Other groups	5623	2.6	591	2.1
Totals	217523	100	28622	100

Where young workers work and what do they do?

Employers completing NMDS-SC provide information on the type of service they provide, establishment type and other employment characteristics as well as job roles performed by individual workers. In this section, we aim to provide a picture of young workers in terms of types of jobs, region and main service provision. These distributions, as well as other characteristics, are compared to those of older workers (26-75) and significant variations are highlighted.

Main service provided

Since the main focus of NMDS-SC is the adult social care sector in England, the data show that most of young and older group work in adult residential services, such as care homes. Table 4 shows that a total of 26,181 (66%) young workers work in adult residential services, compared to 61 percent among older workers. However, it appears from running a Chi-squared test (χ^2= 1298.9, df = 10, p<0.001) that young workers are over-represented in adult residential services[3].

The same test shows that older workers are over-represented in adult day care and adult community care: it follows that young workers are under-represented in both adult day care and adult community care, with expected frequencies of 986 (observed= 494) and 1829 (observed= 918). Figure 3 summarises the test results, with the black bars indicating over-representation and red bars indicating under-representation, using a Cohen-Friendly plot (Cohen 1980; Friendly 1992).

[3] It should be noted that NMDS-SC at end May 2009 contained only limited response from children's services

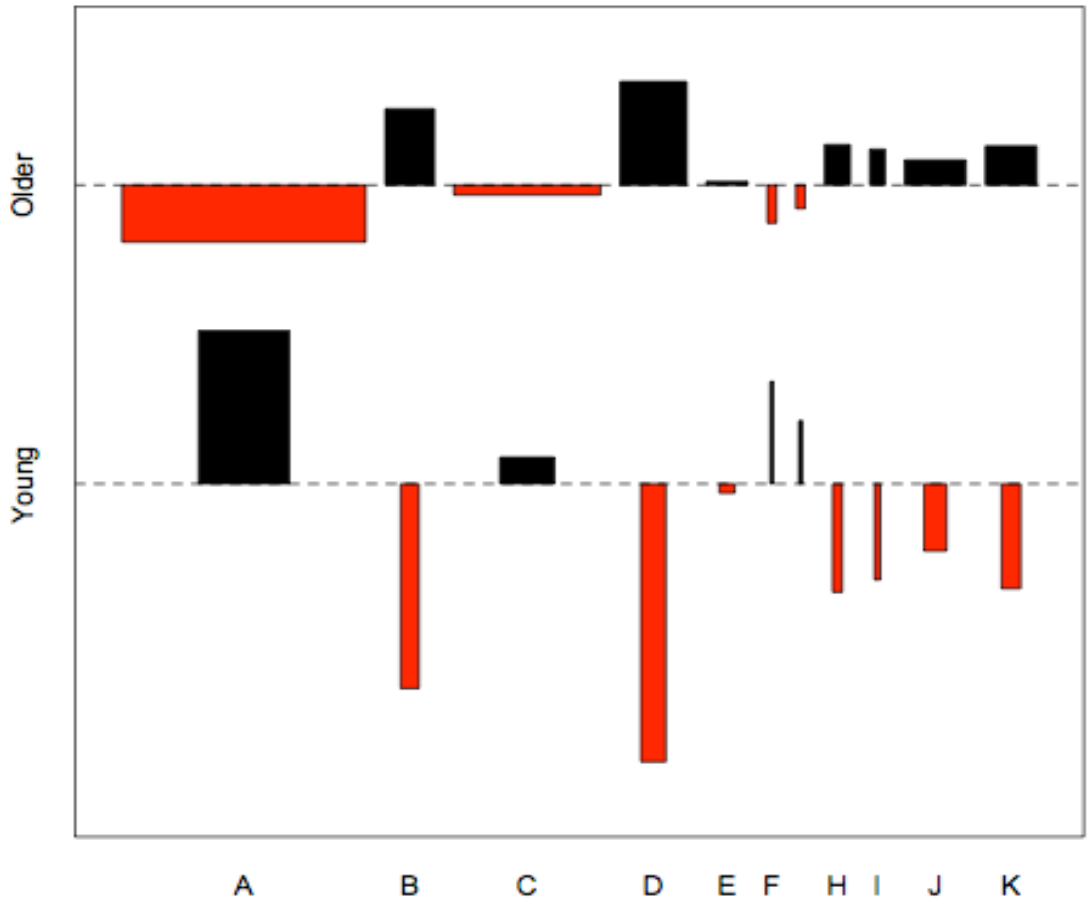
Table 4 Distribution of young and older workers by main service provided, NMDS-SC May 2009

KEY	Main service provided	Older workers (26-75)	%	Young workers (18-25)	%
A	Adult residential	173740	60.7	26181	65.9
B	Adult day care	7604	2.7	494	1.2
C	Adult domiciliary	63344	22.1	9003	22.7
D	Adult community care	14101	4.9	918	2.3
E	Children's residential	5101	1.8	686	1.7
F	Children's day care	197	0.1	79	0.2
G	Children's domiciliary	221	0.1	63	0.2
H	Children's community	2047	0.7	130	0.3
I	Healthcare - NHS	766	0.3	24	0.1
J	Healthcare - independent	11291	3.9	1336	3.4
K	Other	8042	2.8	815	2.1
Totals		286454	100	39729	100

In terms of establishment size, as discussed in Issue 2 of *SCWP*, the majority of all workers work in small and medium size establishments.[4] It is worth remembering that micro employers are under-represented in NMDS-SC due to the fact that the NMDS-SC is currently not completed by individuals who employ their own care workers (those in receipt of direct payments, for example). Additionally, CQC-registered establishments have been prioritized for the completion of NMDS-SC and these tend to be small and medium sized establishments. The data show that young workers are relatively over-represented in medium to large organizations (38% vs. 36%; χ^2= 214.6, df = 4, p<0.001). A mosaic plot visualizing these differences related to age and establishment size can be found in the Appendix (Figure A.2).

[4] Micro employers = less than 10 staff members, small = 10-49 staff members, medium = 50-199 and large = 200 or more staff members.

Figure 3 Association between age of workers (18-25 vs. 26-75) and main service provided[5] using Cohen-Friendly plot, NMDS-SC May 2009



Establishment type

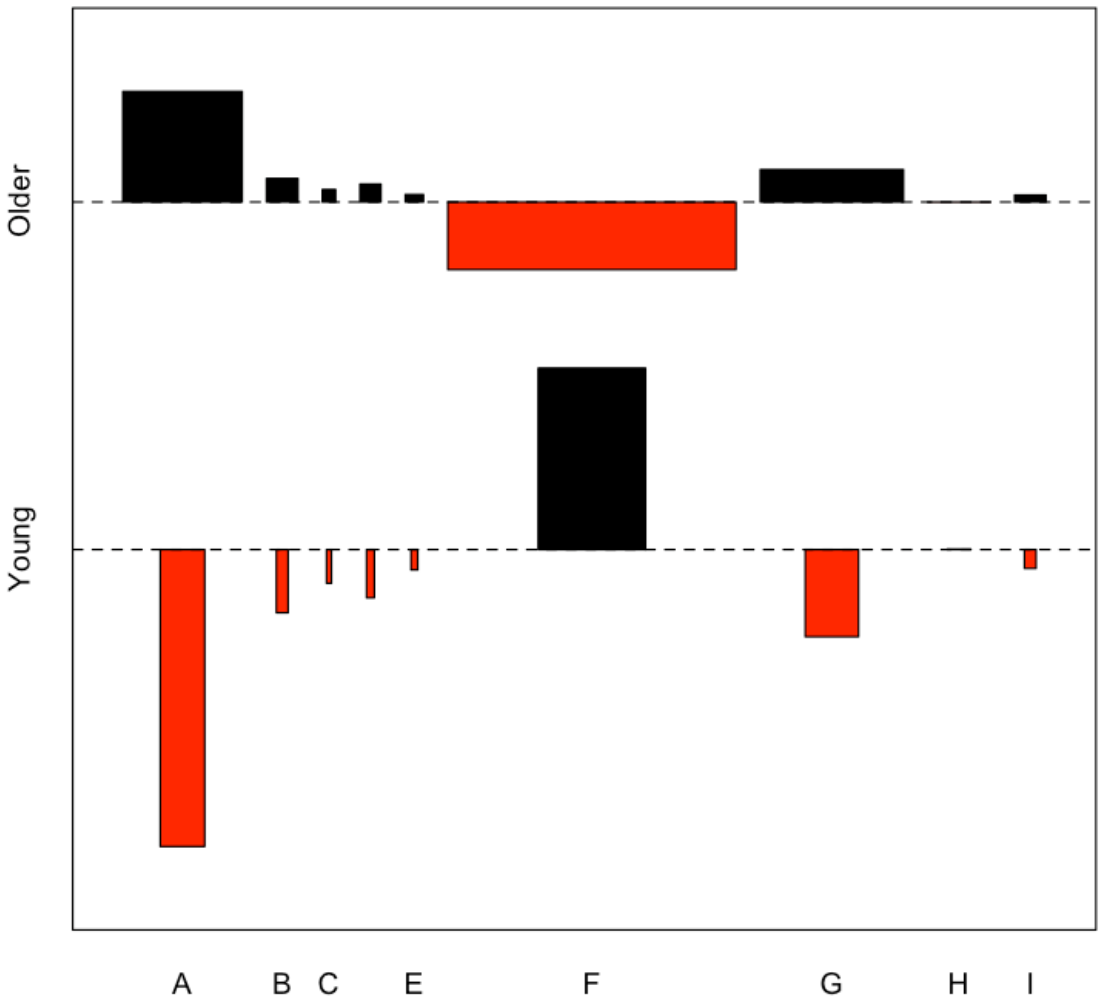
Table 5 shows clear differences in the distribution of young and older workers in terms of the type of establishment in which each group is typically employed: these variations are graphically represented in Figure 4. As can be seen from the data, young workers are significantly under-represented in statutory local authority services (A, B, B and D), particularly in local authority adult services (χ^2= 3780.9, df= 8, p<0.001). Similar negative correlations also exist within the voluntary or third sector, but with a lesser magnitude (expected frequency= 6,531, observed= 5,435). The test shows that the young workers are only positively correlated with the private sector, with expected frequency of 26,475 and observed frequency of 31,074. This means that they are more likely to be working in the private sector when compared to older workers. However, it should be noted that NMDS-SC returns from local authorities are still, at this stage, limited to a small number of authorities thus under-represent this sector.

[5] Key to main service is in Table 4

Table 5 Distribution of young and older workers by establishment type, NMDS-SC May 2009

Key	Establishment type	Older workers (26-75)	%	Young workers (18-25)	%
A	Statutory local authority (adult services)	35869	12.5	1426	3.6
B	Statutory local authority (children's services)	2463	0.9	142	0.4
C	Statutory local authority (generic or other services)	446	0.2	17	0
D	Statutory local authority owned	1108	0.4	52	0.1
E	Statutory health	793	0.3	73	0.2
F	Private sector	186294	65	31074	78.2
G	Voluntary or third sector	48189	16.8	5435	13.7
H	Other	8976	3.1	1248	3.1
I	Not recorded	2316	0.8	262	0.7
Totals		286454	100	39729	100

Figure 4 Association between age of workers (18-25 vs. 26-75) and establishment type[6] using Cohen-Friendly plot, NMDS-SC May 2009



Job roles

Table 6 shows that over three quarters, 76 percent, of young workers (18-25) work as care workers. An additional 1,642 (4.1%) young workers are employed as senior care workers. Just one percent (n=364) hold management positions and a very small proportion (0.2%; n=96) are employed as social workers.

[6] Key to establishment type is in Table 5

Table 6 Distribution of young workers (18-25) by main job role, NMDS-SC May 2009

Main job role[7]	Number of young workers	Percent
Senior Management	91	0.2
Middle Management	73	0.2
First Line Manager	148	0.4
Registered Manager	52	0.1
Supervisor	196	0.5
Social Worker	69	0.2
Senior Care Worker	1642	4.1
Care Worker	30255	76.2
Community Support and Outreach Work	1182	3.0
Employment Support	26	0.1
Advice Guidance and Advocacy	12	0.0
Educational Support	20	0.1
Youth Offending Support	2	0.0
Counsellor	2	0.0
Occupational Therapist	19	0.0
Registered Nurse	254	0.6
Allied Health Professional	15	0.0
Nursery Nurse	38	0.1
Childcare Worker or Childcare Assistant	111	0.3
Teacher	5	0.0
Educational Assistant	70	0.2
Technician	14	0.0
Other care-providing job role	1090	2.7
Managers and staff in care-related but not care-providing roles	163	0.4
Administrative or office staff not care-providing	796	2.0
Ancillary staff not care-providing	2696	6.8
Other non-care-providing job roles	677	1.7
Not recorded	11	0.0
Total	39729	100.0

When grouping young workers by main job role, Table 7 shows that 87 percent work in direct care, 2 percent as managers/supervisors, less than one percent are in professional jobs and 11 percent are in 'other' job roles as classified by Skills for Care. When comparing main job roles performed by younger workers to those carried out by older workers (26-75), Table 7 shows that younger workers are significantly more likely to undertake direct care jobs and are much less likely to be in managerial/supervisory or professional roles (χ^2= 6195.1, df= 3, p<0.001), which may be attributed to their age or other characteristics. The interactions between different characteristics are explored in more detail later in this Issue using regression models.

[7] Note that current NMDS-SC under-represent workers in the children's sector thus the numbers related to job roles in this sector, such as nursery nurses, are relatively small.

Table 7 Distribution of young and older workers by main job role grouped, NMDS-SC May 2009

Main job role	Older workers (26-75)	%	Young workers (18-25)	%
Direct Care	200434	70	34464	86.7
Manager/Supervisor	29985	10.5	792	2
Professional	18634	6.5	293	0.7
Other	37401	13.1	4180	10.5
Totals	286454	100	39729	100

Distance travelled to work

NMDS collects information on distance travelled to work by each individual worker. Distance travelled is used here as a proxy of working locally and will be examined in relation to workers' age. The data presented in Table 8 show that in general over half of all workers tend to work within a maximum of 5 miles from their homes. However, young workers were significantly more likely to travel less than 2 miles from home when compared to older workers (50% vs. 45%; a graphical presentation of these variations is provided in Figure A.3 in the Appendix).

Table 8 Distribution of young and older workers by distance travelled to work, NMDS-SC May 2009

Distance travelled to work	Older workers (26-75)	%	Young workers (18-25)	%
Under 1 mile	54200	26.7	7970	29.5
1 to under 2 miles	37504	18.5	5506	20.4
2 to under 5 miles	58104	28.7	7543	28
5 to under 10 miles	31583	15.6	3734	13.8
10 to under 25 miles	16814	8.3	1733	6.4
25 to under 50 miles	3094	1.5	313	1.2
50 to under 100 miles	805	0.4	91	0.3
100 miles or more	568	0.3	83	0.3
Totals	202672	100	26973	100

Region

Young workers are distributed across the nine English ***regions***. The largest group (15%, n=6124) is found in the South East; while the smallest group is in London (6%, n=2459). Table 9 shows the distribution of young workers by region compared to that of all workers (extract from Hussein 2009a). The results show that young workers are relatively under-represented in London and over-represented in the Eastern, East Midlands and Yorkshire and Humber regions. This may be linked to other factors: for example, whether young workers work locally while living with parents. Some of these inter-relationships are examined later in this Issue.

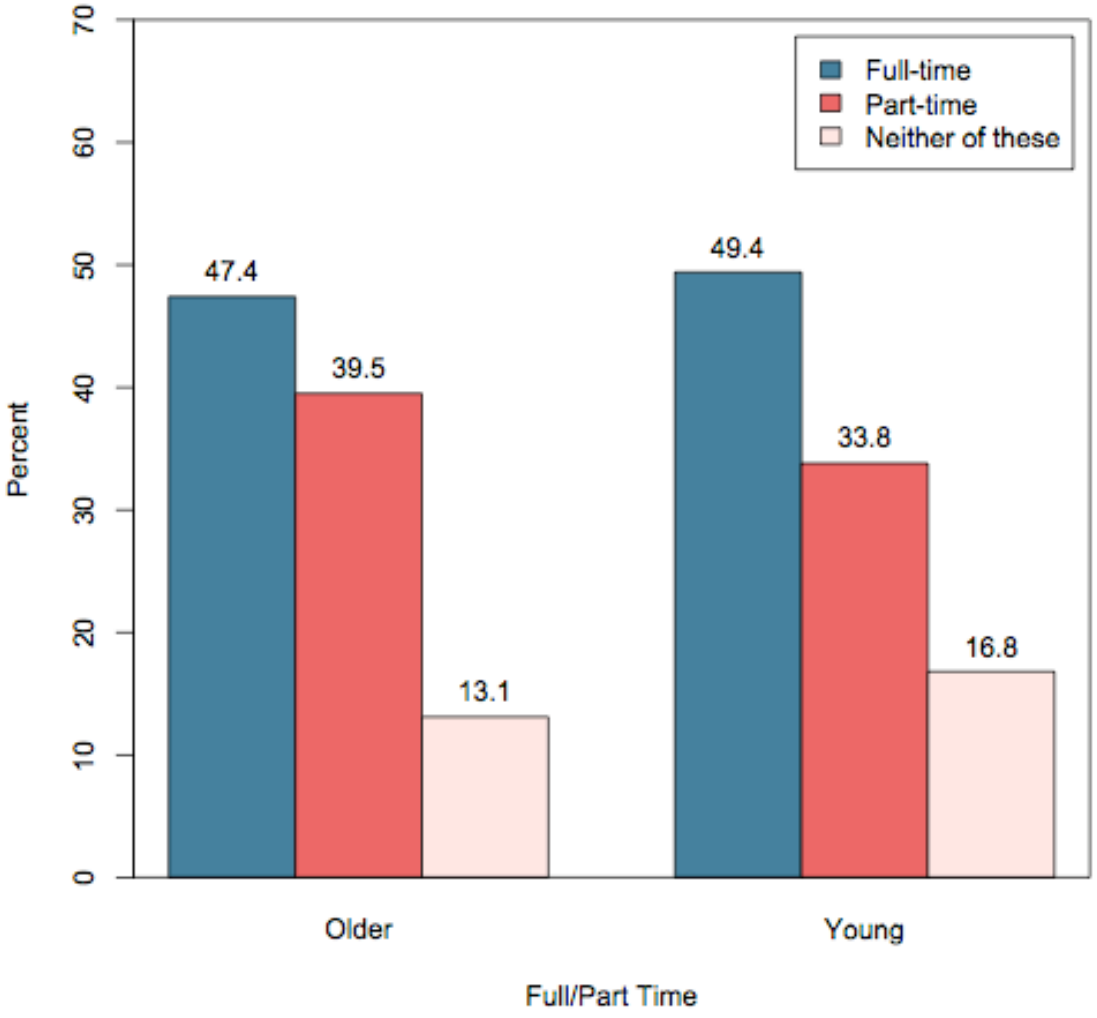
Table 9 Distributions of young workers (18-25) and all workers by region, NMDS-SC May 2009

Region	Number of young workers 18-25	Distribution of young workers	Distribution of all workers
Eastern	5133	13%	11%
East Midlands	4776	12%	10%
London	2459	6%	15%
North East	2529	6%	5%
North West	5559	14%	15%
South East	6124	15%	16%
South West	4190	11%	11%
West Midlands	3892	10%	10%
Yorkshire & Humber	5067	13%	7%
Total	39729	100	100

Work patterns

Employers completing the NMDS data set provided information on work patterns for 27,336 young workers. Among them approximately half (49%, n=13,504) work full-time; 34 percent are part-time workers and 17 percent are on different types of contract. Compared to the older group of workers (26-75), a Pearson Chi-squared test (χ^2= 460, df = 2, p-value<0.001) shows that young workers are slightly, but significantly, over-represented in full-time positions (49% vs. 47%) and under-represented in part-time positions (34% vs. 40%). The young group of workers also appears to be over-represented in other work patterns (17% vs. 13%; see Figure 5). In terms of average contracted hours, among those working part-time, older workers were contracted to an average of 17 hours per week slightly longer than the average of 16 hours among young workers.

Figure 5 Distribution of young and older workers by work pattern, NMDS-SC May 2009



Source of recruitment of young workers

Employers responding to the NMDS-SC provide information on the source of recruitment of each individual working for them. Among the 39,729 young workers identified, NMDS-SC May 2009, over half, 56 percent, did not have their source of recruitment recorded, or source of recruitment was unknown to the employer. Source of recruitment is one of the variables with high missing values among all workers; however, those with their source of recruitment identified (n=17,312) provide valuable information, particularly when considering how to attract more young workers to the sector.

Table 10 provides valuable detailed information on the source of recruitment of 17,312 young workers as identified in NMDS returns, May 2009. Nearly a third of young workers (33.6%, n=5,819) were recruited from the private or voluntary adult social care sector (whether adult or children's or other voluntary work). A small, but not negligible, 8 percent came from the retail sector, 10 percent from other sectors and an additional 9 percent were not previously employed, which includes those who come directly from school or colleges, highlighting the

possible attraction of the care sector to young people with no current or previous employment.

Table 10 Distribution of all young workers in social care (18-25) by source of recruitment, NMDS-SC May 2009

Source of recruitment to current job	Number of young workers	Percent
Adult care sector: private or voluntary sector	5348	30.9
Other sources	3429	19.8
Other sector	1660	9.6
Not previously employed	1580	9.1
Retail sector	1367	7.9
Health sector	797	4.6
Student work experience or placement	749	4.3
Adult care sector: local authority	550	3.2
From abroad	443	2.6
Agency	358	2.1
Children's sector: private or voluntary sector	348	2.0
Internal promotion or transfer or career development	264	1.5
Returner	195	1.1
Volunteering or voluntary work	123	0.7
Children's sector: local authority	101	0.6
Totals	17312	100

Young workers' source of recruitment and main job roles

As indicated above, around 87 percent (n=34,464) of young workers work in *direct* care jobs. Employers provided information about source of recruitment for 15,063 of these young workers. Given that NMDS-SC focuses mainly on adult social care, Table 11 provides data relating to this sector (by far the largest) showing that over a third of young direct care workers (36%) were previously employed in the adult care sector, with the majority from the private or voluntary sector. Given the high proportion of young workers working in direct care, the profile of their source of recruitment is very similar to that presented in Table 10.

Table 12 presents the distribution of young workers working as managers/supervisors whose source of recruitment was known to their employers (n=386). The top source of recruitment, as with direct care workers, remains the adult care sector (mainly private or voluntary). However, unlike those employed in direct care, a relatively large proportion, 17 percent, of young workers working as managers/supervisors were recruited from the children's sector (private or voluntary). Not surprisingly, seven percent were internally promoted; only four percent were not previously employed and similar proportions were recruited from the retail sector.

Table 11 Distribution of young workers working in *direct* care by their source of recruitment to current job, NMDS-SC May 2009

Source of recruitment of direct care young workers	Young workers working in direct care	Percent
Adult care sector: private or voluntary sector	4863	32.3
Other sources	2933	19.5
Other sector	1414	9.4
Retail sector	1241	8.2
Not previously employed	1229	8.2
Health sector	718	4.8
Student work experience or placement	617	4.1
Adult care sector: local authority	504	3.3
From abroad	392	2.6
Agency	301	2.0
Children's sector: private or voluntary sector	265	1.8
Internal promotion or transfer or career development	212	1.4
Returner	171	1.1
Volunteering or voluntary work	111	0.7
Children's sector: local authority	92	0.6
Total	15063	100.0

Table 13 presents the distribution of young workers holding professional job roles by their recorded source of recruitment. Employers provided information on source of recruitment for only 91 (out of 293) young workers working in professional job roles (occupational therapists, registered nurses, allied health professionals and qualified teachers). Not surprisingly, over a quarter were recruited from the health sector (mainly registered nurses), followed by 20 percent from the adult care sector (private or voluntary) and 19 percent from other sources. Again, equal proportions of 4 percent were recruited from the retail sector or were not previously employed.

Table 12 Distribution of young workers working as managers/supervisors by their source of recruitment, NMDS-SC May 2009

Source of recruitment of young workers working as managers/supervisors[8]	Number of young workers working as mangers/ supervisor	Percent
Adult care sector: private or voluntary sector	116	30.1
Children's sector: private or voluntary sector	67	17.4
Other sources	60	15.5
Internal promotion or transfer or career development	27	7.0
Other sector	23	6.0
Health sector	19	4.9
Not previously employed	17	4.4
Retail sector	15	3.9
Adult care sector: local authority	13	3.4
Student work experience or placement	11	2.8
Agency	10	2.6
From abroad	3	0.8
Children's sector: local authority	2	0.5
Volunteering or voluntary work	2	0.5
Returner	1	0.3
Total	386	100.0

Table 13 Distribution of young workers working in professional roles by source of recruitment, NMDS-SC May 2009

Source of recruitment of young workers in professional job roles	Young workers working in professional roles	%
Health sector	24	26.4
Adult care sector: private or voluntary sector	18	19.8
Other sources	17	18.7
Student work experience or placement	7	7.7
Other sector	5	5.5
Retail sector	4	4.4
Not previously employed	4	4.4
Agency	4	4.4
From abroad	3	3.3
Adult care sector: local authority	2	2.2
Internal promotion or transfer or career development	2	2.2
Returner	1	1.1
Total	91	100.0

[8] Including senior and middle management, first line managers, registered managers, supervisors, social workers and managers of staff in care-related but not care-providing roles. Note that social workers were included in this category by Skills for Care in error and new releases of the NMDS will recategorise them under the 'professional' group of workers.

Table 14 shows that employers provided information on source of recruitment for 1772 (out of 4180) young workers working in other social care jobs. Here, nearly a quarter (24%) were employed from 'other sources'; nearly a fifth (19%) were not previously employed and an additional 6 percent were recruited from the retail sector.

Table 14 Distribution of young workers working in other social care jobs by their source of recruitment to current jobs, NMDS-SC May 2009

Source of recruitment of young workers working in other social care jobs[9]	Young workers working in other social care jobs	%
Other sources	419	23.6
Adult care sector: private or voluntary sector	351	19.8
Not previously employed	330	18.6
Other sector	218	12.3
Student work experience or placement	114	6.4
Retail sector	107	6.0
From abroad	45	2.5
Agency	43	2.4
Health sector	36	2.0
Adult care sector: local authority	31	1.7
Internal promotion or transfer or career development	23	1.3
Returner	22	1.2
Children's sector: private or voluntary sector	16	0.9
Volunteering or voluntary work	10	0.6
Children's sector: local authority	7	0.4
Total	1772	100.0

Differences in the characteristics of young and older workers

The above analyses indicated some significant differences in the characteristics, job roles and places of work of young workers when compared to older workers. In this section we investigate the observed associations between young workers (18-25) and different characteristics, in comparison to older workers (26-75), using a logistic regression model as explained in the next equation:

$$\log it(Young) = \alpha + b_1 Gender + b_2 Ethnicgroup + b_3 Qualification + b_4 Jobgroup + b_5 Workpattern + b_6 \mathrm{Re}gion + b_7 Establishmenttype + b_8 Establishmentsize + \varepsilon$$

Equation 1

[9] Includes administrative staff, ancillary staff not care-providing and other job roles not directly involving providing care.

The model aims to examine how well the listed variables can contribute to explaining the binary variable 'Young', which indicates whether a worker is in the age group of 18 to 25 or the older age group (26-75). All records that contained missing values for any of the variables included in the model, as listed in Equation 1, were excluded from the analysis. The model used 57,868 valid records including 4,778 cases where the worker belongs to the group of younger people (8.3% out of the total of 57,868).

A stepwise forward approach was used; the model could not be simplified further than that presented in Table 15. This model is in the optimal level with the lowest AIC[10]. All variables included in the model show significant association with the young variable. To test the overall fit compared to the null model we calculated the P-value from the Chi-square density curve for the difference between the residuals of the null model and the final model, for the corresponding difference in degrees of freedom the model is significantly different from the null model. We conclude that there is no evidence to suggest the model poorly fits the data. We further tested the model fitting using Area Under the ROC Curve (AUC) criteria resulting in a value of 0.72 indicating that the model had 'very good' discriminatory power (Hosmer and Lemeshow 2000; see Figure A.4 in the Appendix for illustrative chart).

Table 15 shows that after controlling for all variables together, each of the following are significantly associated with being in the younger age group at the highest level of significance ($p<0.001$): ethnicity, highest qualifications, job role, work pattern, type and size of establishment. Young workers were significantly more likely to be of White ethnicity, to work in direct care jobs, work in full-time jobs, and to be employed in the private and voluntary sectors. Young workers were also significantly more likely to work in children's day care, although this will be tested further when more data is collected from this sector. At the same time, when controlling for other variables, this group of workers is significantly less likely to work in adult domiciliary care (home care), or to work for micro employers (although data are missing for individual employers who do not generally complete the NMD-SC).

[10] Akaike's Information Criterion (AIC) also known as penalized log-likelihood can be used as a tool to comparing several competing models over the same dataset. We computed ACI for our model, and found it to produce the smallest AIC compared to other models with fewer parameters. The current model produced the smallest AIC among the competing models, which is the one with fewest parameters that still provides an adequate fit to the data (Akaike 1974).

Table 15 Results of logistic regression model as expressed in equation 1, NMDS-SC May 2009

Independent variables in the final model	Odds Ratio	95% Confidence Interval		P-value	Level of association[11]
		Lower	Upper		
Gender (ref: Male)					
Female	1.18	1.07	1.3	0.002	**
Ethnic group (ref: White)					
Any BME	0.55	0.5	0.61	< 0.001	***
Highest qualifications (ref: Level2/2+)					
Entry level	1.97	1.43	2.66	<0.001	***
Lev3/3+	0.57	0.52	0.62	< 0.001	***
Lev4/4+	0.68	0.59	0.77	<0.001	***
Other qualifications	1.63	1.5	1.77	< 0.001	***
Job role (ref: direct care)					
Manager/Supervisor	0.19	0.16	0.22	< 0.001	***
Professional	0.15	0.11	0.19	< 0.001	***
Other	0.45	0.4	0.51	< 0.001	***
Work pattern (ref: full time)					
Part-time	0.69	0.65	0.74	< 0.001	***
Flexible	1.04	0.91	1.18	0.56	
Region (ref: North)					
Midlands	0.92	0.85	0.99	0.04	*
South	0.95	0.88	1.02	0.18	
Sector (ref: local authority)					
LA owned	0.98	0.35	2.2	0.97	
Private	3.87	3.29	4.58	< 0.001	***
Voluntary	2.56	2.15	3.07	< 0.001	***
Other	2.99	2.37	3.79	< 0.001	***
Establishment size (ref: Micro)					
Small	1.32	1.16	1.52	< 0.001	***
Medium	1.44	1.26	1.66	< 0.001	***
Large	1.69	1.22	2.31	0.001	**
Main service (ref: Adult residential)					
Adult day care	0.94	0.74	1.16	0.56	
Adult domiciliary	0.74	0.68	0.8	< 0.001	***
Adult community care	0.77	0.62	0.94	0.012	*
Children's residential	0.99	0.78	1.23	0.911	
Children's day care	3.78	2.43	5.79	< 0.001	***
Children's domiciliary	2.83	1.39	5.35	0.002	**
Children's community	0.89	0.45	1.59	0.718	
Healthcare - NHS	0.76	0.34	1.49	0.464	
Healthcare - independent	1.64	0.48	4.33	0.365	
Other	0.68	0.49	0.91	0.014	*

[11] *p-value<0.05; **p-value<0.005; *** p-value<0.001

On the next level of significance ($p<0.005$), young workers were significantly more likely to be females. Young workers were also significantly more likely to work for large employers (OR=1.69; p=0.001) and more likely to work in children's domiciliary care (OR=2.83, p-value=0.002).

On a lower significant level (P-value<0.05) young workers are significantly, but slightly, less likely to work in the Midlands when compared to the North of England[12] (OR=0.92; p=0.04). They are also significantly less likely to work for organisations providing adult community care or other services when compared to adult residential care (OR= 0.77 and 0.68; p-value=0.01 respectively).

Trends in employing young workers

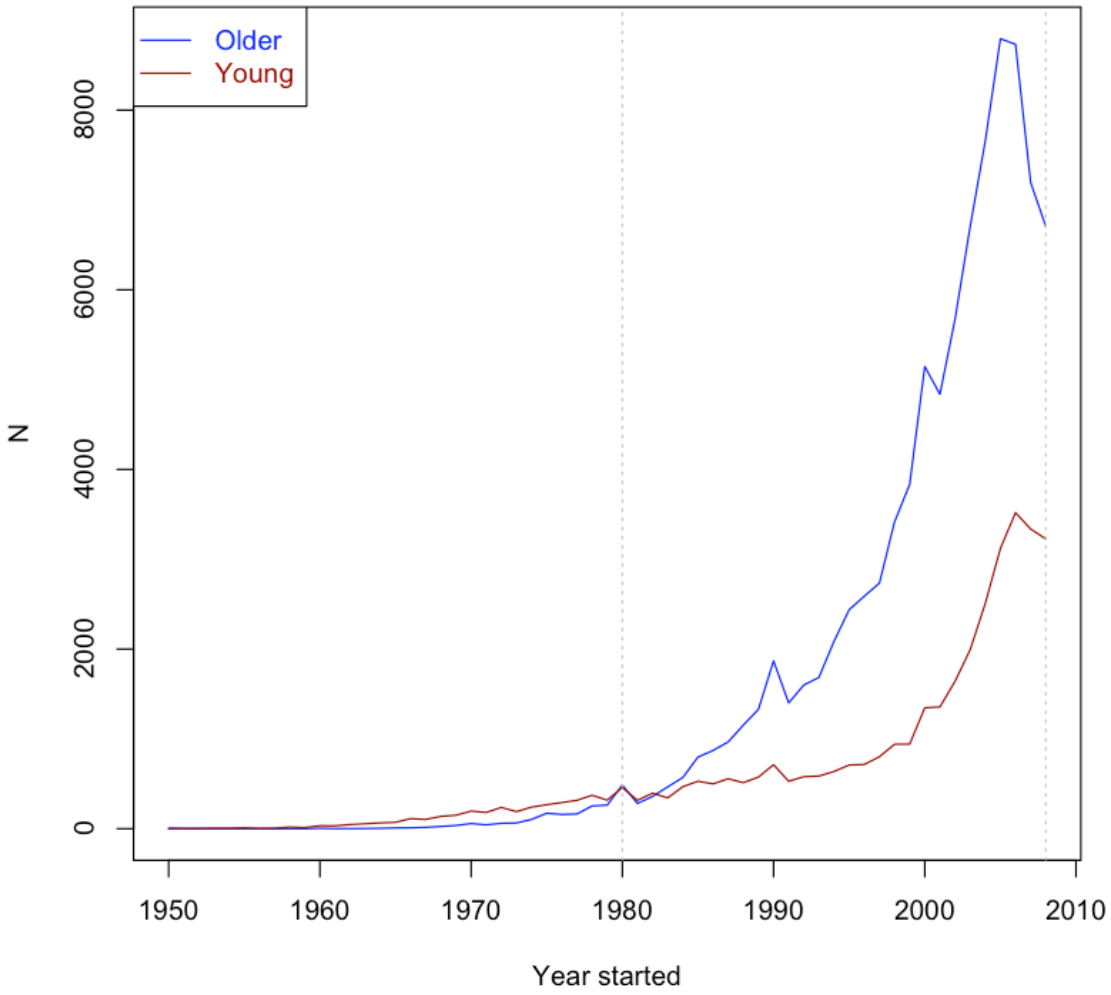
The NMDS data set contains information on the year when an individual started working in the sector and on the age of each individual worker. Such information thus provides data related to age of workers who started work in the sector between the years 1950 and 2009. At the time of this writing, data for the year 2009 is incomplete, so this analysis focuses on the period from 1950 until the end of 2008. Using workers' date of birth and year of joining the sector, the age of workers at the time of starting the job can be calculated and is here considered in relation to younger workers (18-25), older workers (26-75) and the date when they joined the sector. Using such information and 'year joined the sector' we can investigate trends in employing young (and older workers) since 1950. However, there are a number of caveats to this analysis; the main is the fact that many 'older' workers were in fact much younger prior to 1980. For example, a worker aged 50 years in 2008 would have been only 12 years in 1970 and 22 years old in 1980. For this reason we will focus on the trends from 1980 to 2008 as indicated by the dashed vertical lines in Figure 6.

Another important element to be considered when interpreting the findings is the source of information, which comes from the employers rather than the workers themselves. Employers may not know precisely which year workers had started working in the sector. This may be particularly so for older workers, where workers may assume that they have been working in the sector for some time, therefore, may over-represent younger workers in earlier dates. Figure 6 presents a time series of such data and indeed it can be seen that up to the early 1980's younger new workers (18-25) appear to outnumber older new workers (26-75). This may be a real reflection of a trend where during this period people joining the sector tended to be younger than older, or may be related to the nature of the data and how they are collected. For this reason the analysis focuses on the trends since 1980, where the accuracy of data is predicted to be better. There are also some apparent 'digit' preferences, particularly in relation to older workers, when reporting start year of employment: these peaks are

[12] Region is recoded to 'North': North, North West, North East and Yorkshire and Humberside; 'Midlands': East Midlands and West Midlands; and 'South': London, South East and South West.

observed for years presenting complete decades such as 1980, 1990 and 2000 (in other words employers may be making an informed estimate of a start date).

Figure 6 Time series plot of the number of new entrants to the social care sector by whether they are young (18-25) or older (26-75) workers, from 1950 to end of 2008, NMDS-SC May 2009



As discussed earlier, from 1950 to 1980 the number of young workers joining the sector every year exceeded the number of entrants from the older group, which relates both to the fact that most 'older' joiners during this period may have retired by 2008, in addition to more possibilities of reporting errors. Therefore, the analysis focuses on the trends observed since 1980. From 1983 until the end of 2008, a general trend of increased employment in the sector can be clearly observed for both young and older new workers. During the period 1983-2005, the number of entrants from the older group far exceeded the number of young entrants, by a margin ranging from 122 to a maximum of 5675 in 2005. However, since 2005 the numbers of new entrants of both age groups have started to decline, with a steeper slope for the older age group (26-75). For example, the number of new older workers (26-75) dropped from 8795 in 2005 to 6705 in 2008. Numbers of young new workers (18-25) have also declined since 2005, but not as sharply as those related to the older age group. Since 2005

the gap in new employment between the two age groups appears to be slowly declining, from 5675 in 2005 to 3479 in 2008. According to the partial data recorded for 2009, up to the end of May for 2009, the margin between the older and younger age group stands at 713.

It is not clear what might be the reasons behind the slowdown in employment in the sector since 2005, regardless of the age of new entrants. Whether these relate to tighter regulation in employing social care staff, slower turnover, or other factors needs further investigation. More complete data from future NMDS returns will be very useful in examining the continuity of such trends. The above analysis, although limited by a number of caveats, presents interesting trends in both the levels and profile of new employment in the sector; if such trends are accurate, and if they continue in the same direction, the average age of the social care workforce in England may be declining.

Conclusion

With the increased demand on the social care sector, attracting more workers to the sector becomes a priority. Recently the government has recognised the potential of young workers in the care sector and a number of strategies and media campaigns have targeted this group. In this Issue, the current contribution of young workers (18-25) in the English care sector is explored using the NMDS-SC, May 2009 data set. It is important to reinforce the strengths and weaknesses of the NMDS-SC. On the one hand, the NMDS-SC is the most detailed database on adult social care workforce in England to date; however, due to its evolving nature and methodology of data collection, there are a number of limitations. First, the focus of the data is on adult social care. Although there are a considerable number of returns from the children's sector, such data should not be regarded as representative of the children's sector. Secondly, as discussed in the previous two issues of *Social Care Workforce Periodical*, the current NMDS-SC over-represent workers of the independent sector and under-represents workers in the statutory sector. The progressive nature of NMDS-SC completion is another point: however, it is expected that in the near future, larger proportions of employers will complete the dataset, thus improving the coverage and representativeness of the data. The nature and methods of data collection are other important elements, since employers provide all data on individual workers, and therefore there is a consideration regarding accuracy. In particular, there are a number of variables, such as disability and qualifications, where missing values are high. Lastly, currently, the NMDS-SC is not completed by individual employers (those in receipt of direct payments or self-funders, for example) and therefore under-represents 'micro' employers. Nevertheless, the current data set provides a unique source of rich information and the analyses offer important indicators and insight, albeit partial, into the social care workforce in England.

The findings presented in this Issue show that young workers constitute 12 percent of all workers aged 18-75 in the NMDS-SC. The median age of young

workers is 22 years. When comparing the characteristics of young workers (18-25) to older workers (26-75) they tend to travel shorter distances to work and are less likely to work in London, however, this needs further testing as more NMDS-SC returns are obtained from London. A logistic regression examining the profile of young workers, shows a number of significant differences in the characteristics and employment profile of young and older workers. Young workers are significantly less likely to be members of any Black and Ethnic Minority group (BME; OR=0.55; p-value<0.001) and more likely to be female (OR= 1.2; p-value= 0.002) when compared to older workers. In terms of job roles, young workers are significantly more likely to be working in direct care jobs, relative to other types of jobs, when compared to older workers. For example, younger workers' odds ratio of being in managerial roles is 0.19 (p-value<0.001) and 0.15 for professional roles (p-value). Whether such variations in job roles relate solely to age groups, and therefore experience within the sector, or to other unmeasured factors, needs further investigation; possibly through a more in-depth data set or using a tailored methodology.

Young workers are significantly less likely to work part-time than older workers (OR=0.69, p-value<0.001), possibly reflecting fewer responsibilities outside the work sphere, in comparison to older workers who may prefer part-time work to juggle other life/personal responsibilities. In terms of their employment profile, young workers tend to work in larger establishments, with a significantly increasing odds ratio as the establishment size becomes bigger. One of the strongest associations was found between young workers and sector: they were nearly four times more likely to work in the private sector, when compared to local authorities, than older workers (OR=3.87; p-value<0.001). This was followed by working in 'other' sectors, then the voluntary sector (OR= 2.99 and 2.56; p-value<0.001 respectively). However, no information is available on individual employers (those in receipt of direct payments for example) who constitute a sizable part of 'micro' employers and therefore it is not possible to examine the representation of young workers within this type of employment. It is worth re-analysing this data when more returns are obtained from micro employers as well as from local authorities.

Young workers are significantly over-represented in employment where the main service is children's day care, followed by children's domiciliary services, and significantly under-represented in adult domiciliary care (OR= 3.78, 2.83 and 0.74; p-value<0.001; 0.002 and <0.001 respectively).

In terms of qualifications, when using highest qualifications as level 2/2+ for a reference, young workers were significantly more likely to hold entry level or NVQ level 1 and other relevant qualifications, while significantly less likely to hold level 3 or higher. This may indicate that young people with few qualifications are attracted to the social care sector, and of course have not had the same time as older workers to acquire further training.

The analysis examined sources of recruitment of young workers to their current social care employment. A considerable proportion, nearly half (47%) of young workers, were recruited from outside the sector; including not previously

working, retail sector, other sectors, voluntary work or other sources. This highlights the importance of wide recruitment campaigns in attracting young people to the sector. Main sources of recruitment varied by current job roles held by younger workers. Those currently employed in direct care jobs were mainly recruited from the adult care sector (private or voluntary), other sources and other sectors. Among young workers working as managers/supervisors (n=386), the majority were recruited from adult care sector or children's sector (private or voluntary) and other sources, with a small proportion of 7 percent coming through internal promotion or career development. A relatively small number of young workers working in professional jobs had their source of recruitment recorded (n=91); the majority were recruited from the health sector, adult care sector (private or voluntary) and other sources. On the other hand, young workers working in other social care jobs (predominantly non-care related), were mainly recruited from other sources, adult care sector (private or voluntary), not previously employed or other sectors.

The NMDS-SC provides information on the year each worker started working in the care sector, as well as their date of birth. Using such data a time series of trends in the level of employing both young and older workers was calculated. These trends have a number of caveats attached to them, particularly those referring to much older dates. However, when examining relatively recent trends, since the late 80s, there appear to be clear trends towards an increased level of employment in the sector for both age groups of new entrants. The incremental trend peaked in the year 2005, when it started to decline. An interesting trend was observed for years since 2005, where the slope of decline in the level of new employments for the older group (26-75) was much steeper than that for the younger group (18-25). It is not clear why there is a peak then a fall after 2005 and whether this relates to increased regulation or other economic factors. This analysis, although containing a number of *caveats*, presents some interesting trends in both the level and profile of new employment in the sector. If such trends are both accurate and continue in the same direction, the average age of the social care workforce in England may be declining. It is important to follow up this analysis in the future with more returns to the NMDS-SC to establish a pattern.

References

Akaike, Hirotugu (1974). A new look at the statistical model identification. *IEEE Transactions on Automatic Control* 19 (6): 716–723.

Cohen, A. (1980). "On the graphical display of the significant components in a two-way contingency table." *Communications in Statistics - Theory and Methods* **A9**: 1025-1041.

Department of Labor (DOL) and Department of Human Health Services (HHS) (2003). *The Future Supply of Long-Term Care Workers in Relation to the Aging Baby Boom Generation, Report to Congress*. Washington, DC: Department of Labor and Department of Human Health Services.

Eborall, C. and Griffiths, D. (2008). *The State of the Adult Social Care Workforce in England 2008. The Third Report of Skills for Care's Skills Research and Intelligence Unit*. Leeds: Skills for Care.

Emerson, J. W. (1998). "Mosaic displays in S-PLUS: A general implementation and a case study." Statistical Computing and Graphics Newsletter (ASA) **9**(1): 17-23.

Friendly, M. (1992). "Graphical methods for categorical data." *SAS User Group International Conference Proceedings* **17**: 190-200. http://www.math.yorku.ca/SDS/sugi/sugi17-paper.html (accessed 24th September 2009).

Hartigan, J. A. and B. Kleiner (1984). "A mosaic of television ratings." The American Statistician **38**: 32-35.

Hosmer, D. W. and S. Lemeshow (2000). *Applied logistic regression*. New York, NY, Wiley.

Hussein, S. (2009a). Social Care Workforce Profile: Age, gender and ethnicity. *Social Care Workforce Periodical*. London, Social Care Workforce Research Unit, King's College London. Issue 2. http://www.kcl.ac.uk/content/1/c6/06/18/41/SCWPIssue1workingpaper.pdf (accessed 15 December 2009).

Hussein, S. (2009b). The size, role and stability of the social care workforce in England. *Social Care Workforce Periodical*. London, Social Care Workforce Research Unit, King's College London. Issue 1. http://www.kcl.ac.uk/content/1/c6/06/18/41/SCWPIssue2FinalDraft.pdf (accessed 15 December 2009).

Hussein S., Stevens M. and Manthorpe J. (2009). *International Social Care Workers in England: Profile, Motivations, experiences and Future Expectations*,

October 2009. Final Report to the Department of Health, Social Care Workforce Research Unit, King's College London.

Hussein, S., and Manthorpe, J. (2005). An International Review of Long Term Care Workforce: Policies and Shortages. *Journal of Aging and Social Policy,* 17 (4): 75-94. PMID: 16380370.

Nakhnikian, E. and Kahn, K. (2004) *Direct-care workers speaking out on their own behalf.* Washington, DC: Institute for the Future of Aging Services.

Stone, R. (2000) Long-term care for the elderly with disabilities: Current policies, emerging trends, and implications for the Twenty-First Century. Washington, DC: American Association of Homes and Services for the Aging (AAHSA).

Stone, R. (2005) The direct care work: The third rail of home care policy, *Annual Review of Public Health*, 25:521-37.

Appendix

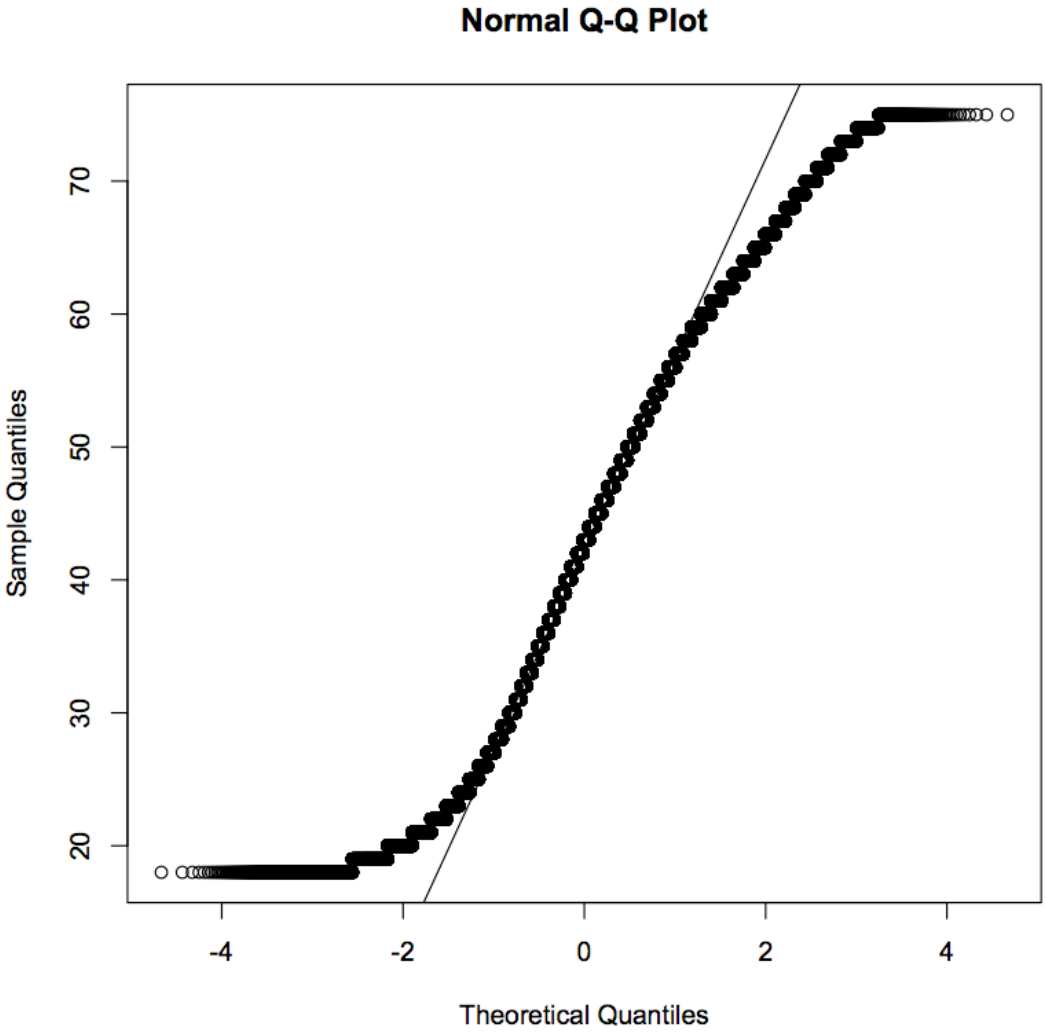
Box A.1: About NMDS-SC

The NMDS-SC is the first attempt to gather standardized workforce information for the social care sector. It is developed, run and supported by Skills for Care and aims to gather a 'minimum' set of information about services and staff across all service user groups and sectors within the social care sector in England. The NMDS-SC was launched in October 2005, and the online version in July 2007; since then there has been a remarkable increase in the number of employers completing the national dataset.

Two data sets are collected from employers. The first gives information on the establishment and service(s) provided as well as total numbers of staff working in different job roles. The second data set is also completed by employers; however, it collects information about individual staff members. Skills for Care recommends that employers advise their staff they will be providing data through the completion of the NMDS-SC questionnaires. No written consent from individual members of staff is required, however, ethnicity and disability are considered under the Data Protection Act to be *'sensitive personal data'*, thus it is recommended that consent for passing on these two items needs to be explicit. For further details on NMDS-SC please visit http://www.nmds-sc-online.org.uk/

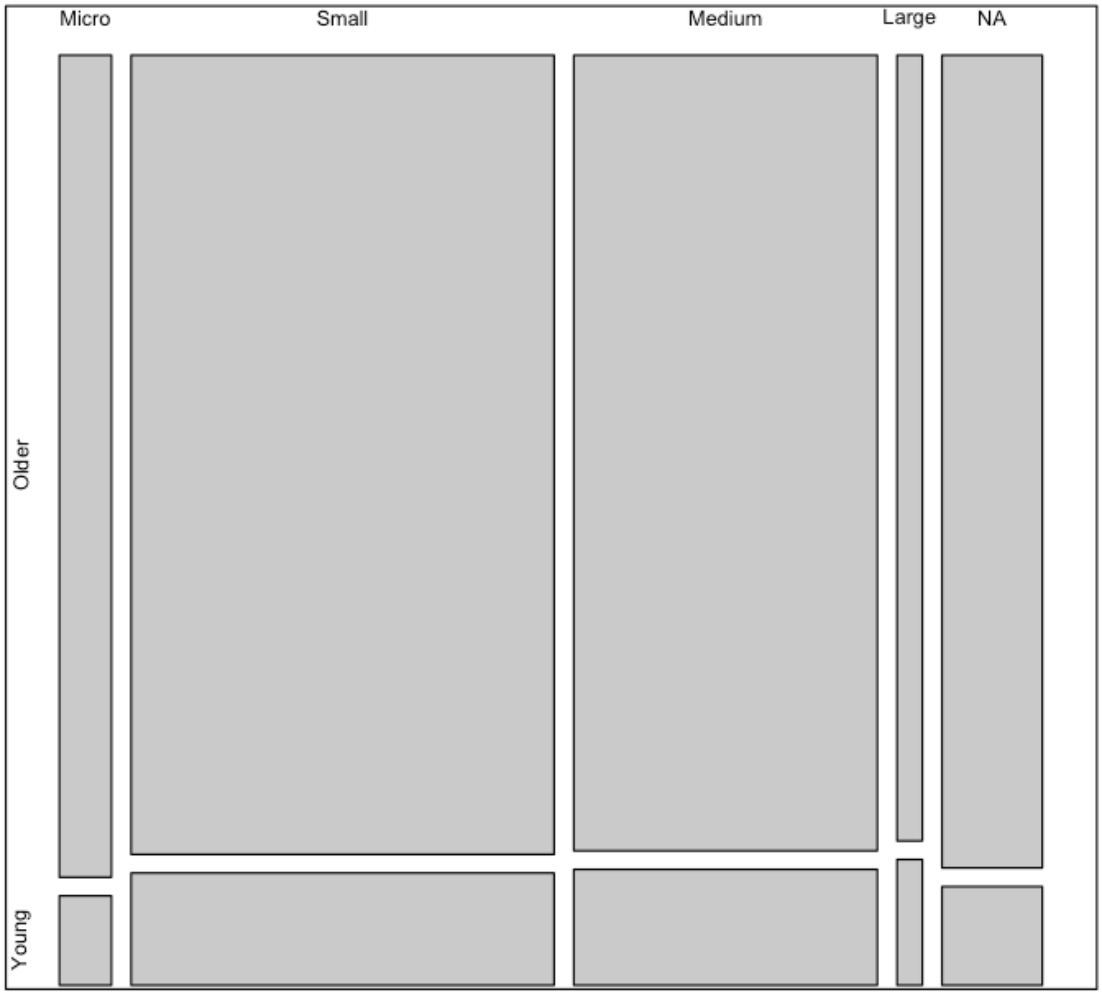
The NMDS-SC has provided the sector with a unique data set, providing information on a number of the workforce characteristics. However, it is important to highlight the emerging nature of the NMDS-SC, mainly due to the fact that data have not been completed by *'all'* adult social care employers in England, at this stage. Therefore, some of the findings may be under- or over-represented as a result of this. It is also equally important to bear in mind that data are completed by employers and not workers. This may also prompt some technical considerations when interpreting the findings. *Social Care Workforce Periodical* will address such considerations in relevant discussions of findings.

Figure A.1 Normal quantile-to quantile plot comparing frequency distribution of age to that of a normal distribution[13]



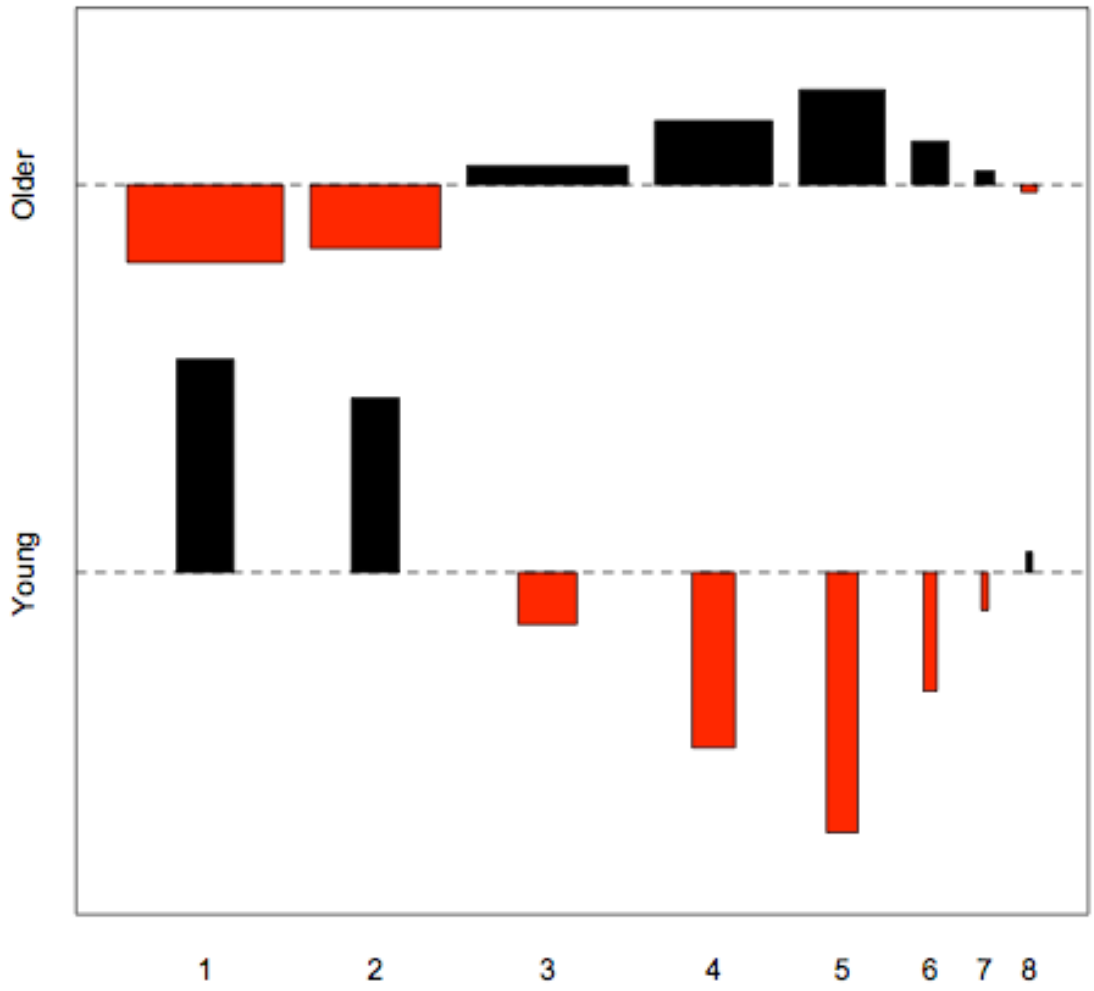
[13] The data points fall along an approximately straight line when the data are from a normal distribution.

Figure A.2 Mosaic-plot[14] representation between age of workers (younger vs. older) and establishment type, NMDS-SC May 2009



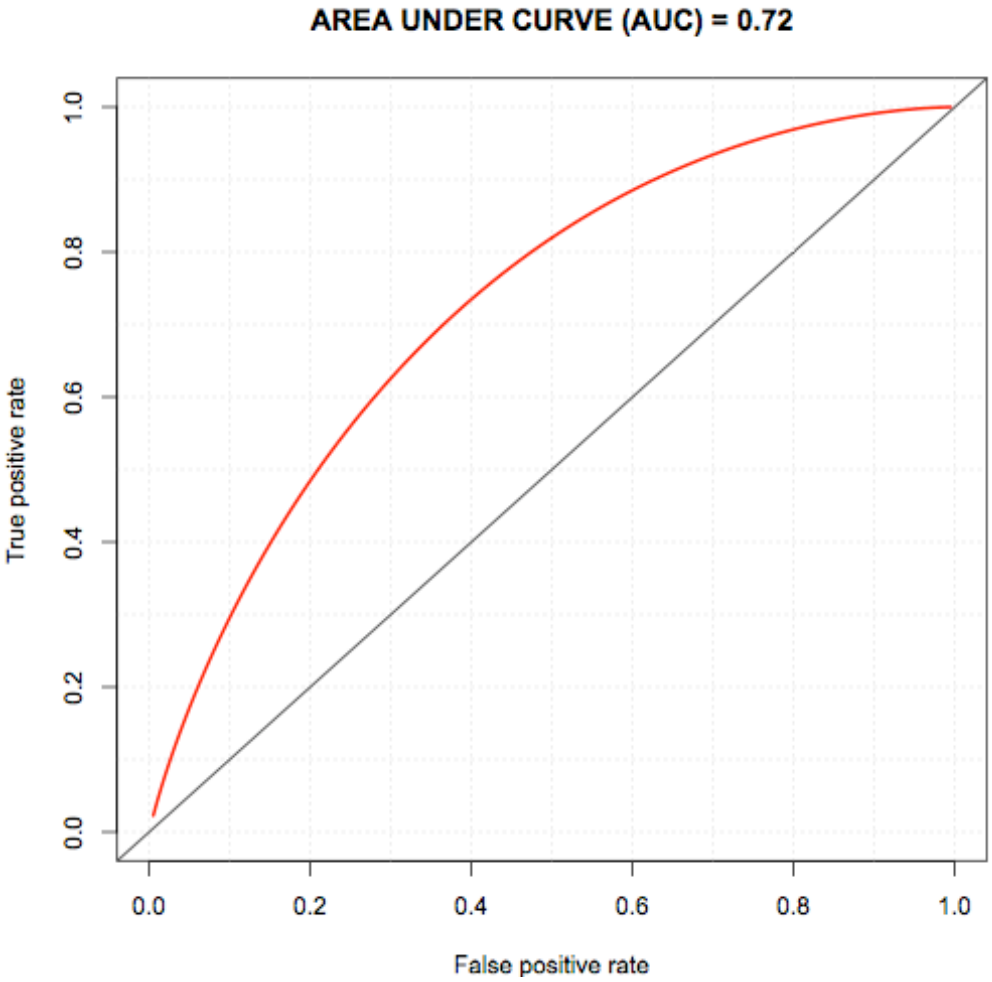
[14] The mosaic display shows the frequencies in the 2-way contingency of age (as binary: younger (18-25) and older (26-75)) and establishment size using nested rectangular regions whose area is proportional to the frequency in a cell or marginal sub-table. The mosaic plot starts as a square with length one. The square is divided first into horizontal bars whose widths are proportional to the probabilities associated with the first categorical variable (Hartigan and Kleiner, 1984; Emerson, 1988).

Figure A.3 Cohen-Friendly[15] plot of the association between distance travelled to work (Coded 1 to 8 presenting the categories in Table 8) and whether workers are young (18-25) or older (26-75), NMDS-SC May 2009



[15] Cohen-Friendly association plot indicates deviations from independence of rows and columns in the two-dimensional contingency table of young or older workers by distance travelled to work. It visualises the departures from expectations of the observed frequencies. The area of the box is proportional to the difference in observed and expected frequencies. The rectangles in each row are positioned relative to a baseline indicating independence. The black bars/rectangles show the excess above expected, while the red bars show categories where fewer people were observed than expected (Cohen, 1980; Friendly, 1992).

Figure A.4 Overall model fitting, AUC[16] ,for the logistic regression model presented in Equation 1



[16] This area is interpreted as the likelihood that a case will have a higher π than a control across the range of criterion values investigated. The nearer the value of AUC to 0.5 the more likely that the results are not more than random, the closer to 1 the more likely the results of the model reflects true associations and thus have high discriminatory power.